Application No.: 10/560,372

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 2.(Cancelled).

3. (Previously presented) A method according to claim 36 wherein the

enzyme granulates are removed from the processing chamber by a sifting device.

4. (Previously presented) A method according to claim 36 wherein the

enzyme granulates are removed from the processing chamber via volumetric

removal units.

5. (Previously presented) A method according to claim 36 wherein the

enzyme granulates removed from the process that are too small or too big are

separated from the finished goods.

6. (Previously presented) A method according to claim 5, wherein the

enzyme granulates removed from the process that are too small are returned into

the processing chamber as seed material.

7. (Previously presented) A method according to claim 5, wherein the

enzyme granulates removed from the process that are too large are milled by a

milling device and returned into the processing chamber as seed material.

8. (Previously presented) A method according to claim 6, wherein the

enzyme granulates returned to the processing chamber are thermally retreated.

9. (Previously presented) A method according to claim 8, wherein the

enzyme granulates returned into the processing chamber are dried or preheated.

10. (Previously presented) A method according to claim 8, wherein the

enzyme granulates returned into the processing chamber are milled.

11. (Previously presented) A method according to claim 36, wherein the

enzyme granulates are made from various additives and in various mixing ratios.

12. (Previously presented) A method according to claim 36, wherein, the

material particles are subjected to a granulation process after prior spray drying.

13. (Previously presented) A method according to claim 36, wherein 1 % by

weight or more, of a powdery ready-made granulation product, produced according

to the method and/or otherwise produced enzyme particles and/or one or more

enzyme containing intermediate products, selected from enzyme containing powder

or dust, is added to the granulation process.

14. (Previously presented) A method according to claim 36, wherein the

enzyme granulates produced are coated in a subsequent step by coating with a

water-protecting layer.

- 3 -

15. (Cancelled)

- 16. (Previously presented) A method according to claim 36, wherein before or simultaneously to or after step a., or during the granulation process, fine-grained to coarse particular material is added as the seed material for the drying and granulation process.
- 17. (Previously presented) A method according to claim 36, wherein the enzyme granulates produced, have a roundness factor of 1 to 1.6, an average grain size D50 of 60 to 2000 μm, (i), wherein when a content of the active enzyme in reference to a sum of active and inactive enzyme content amounts to more than 85 % up to 88%, the average grain size D50 lies in the range from 650 to 2000 μm, (ii) wherein when a portion of the active enzyme, as defined above, is more than 88 % up to 91%, the average grain size D50 is in the range from including 470 to less than 650 μm, (iii) wherein when the portion of the active enzyme, as defined above, is more than 91 % up to 95%, the average grain size D50 is at 230, including to less than 470 μm, and (iv) wherein when the portion of the active enzyme, as defined above, amounts to more than 95 %, the average grain size D50 ranges from 60 to less than 230 μm, and a residual moisture is below 5 % by weight.
- 18. (Previously presented) A method according to claim 17, wherein a weight ratio of inactive material including inactive enzyme in reference to active enzymes amounts to less than 7:1 in reference to a dry weight.

19. (Previously presented) A method according to claim 18, wherein the

enzyme granulate has an average grain size of 60 through 800 µm, wherein a dust

content according to the Heubach test is less than 800ppm.

20. (Previously presented) A method according to claim 19, wherein a

pressure resistance of the enzyme granulates is equal or more than 10 MPa.

21. (Previously presented) A method according to claim 20, wherein a

grain size distribution of the enzyme granulates, defined by a ratio of d10/d90, is

equal or greater than 0.4.

22. (Previously presented) A method according to claim 20, wherein a bulk

density of the enzyme granulate is equal or greater than 500 g/l.

23. (Previously presented) A method according to claim 17, comprising

phytase as an enzyme, the phytase activity of the enzyme granulates is equal or

greater than 15 000 FTU/mg.

24. (Previously presented) A method according to claim 17, further

comprising using the enzyme granulates as an addition or a sole effective

component in the production of formulations for food, cleaning, or pharmaceutical

purposes.

25. (Previously presented) The method according to claim 24, wherein the

enzyme granulate is used for the production of feed.

- 5 -

26. (Previously presented) The method according to claim 24, wherein the

enzyme granulate is used for the production of food.

27. (Previously presented) The method according to claim 24, wherein the

enzyme granulate is used for the production of a laundry or dishwashing detergent.

28. (Previously presented) The method according to claim 24, further

comprising using the enzyme granulates as addition or sole effective agent in the

production of formulations for food, cleaning, or pharmaceutical purposes.

29. (Previously presented) The method according to claim 28, further

comprising using the enzyme granulate for the production of feed, food or a laundry

or dishwashing detergent.

30. - 32. (Cancelled).

33. (Previously presented) A method according to claim 36, wherein one or

more material nozzles and a gas for atomizing one or more solutions or suspensions

of one or more inert materials are used.

34. (Previously presented) Enzyme granulates produced according to the

method of claim 17.

35. (Previously presented) A method of using enzyme granulates according

to claim 34 for the production of feed, for the production of food, or for the

production of a laundry or dishwashing detergent comprising admixing the enzyme

- 6 -

granulates to the corresponding products.

36. (Currently amended) 36. A method for producing enzyme granulates,

comprising:

a. injecting at least one liquid enzyme formulations via nozzles into a heated solids-

laden processing gas stream, the processing gas stream enters entering a device, via

at least one opening gap (1) which is rotationally symmetrical or elongated that

leads into a process chamber (8) in the form of gas jets and the processing stream

enters entering the at least one gap (1) horizontally and [[is]] being redirected

upwards by a deflection piece part (3) into the processing chamber (8) and flows

flowing as a type of free stream into the device,

b. subjecting moistened solids in the heated gas stream to a drying and granulation

process,

c. separating the particles from the gas stream after a residence time, and returning

the particles into a processing chamber, where in an upper region of the processing

chamber (8) and in an expansion zone (14) located above the process chamber (8),

gas speed reduces so that upward flowing particles fall laterally out of the gas

stream (23) and fall back into the processing chamber (8), which is limited in a

lower region by sloped lateral walls (29) defining a lateral incline, and by the effect

of gravity and the lateral incline via a return zone (24) move towards the as least

one of the gas entry gap (1),

d. directing, as a result, the particles into the gas entry [[gap]] area where they are

subsequently entrained once more by the processing gas into the processing

chamber (8),

e. separating fine particles, dust, and particles from the particles entrained by the

processing gas and returning the fine particles, dust, and particles to the process as

Applicant: Rümpler et al.

Application No.: 10/560,372

seed material for granulate formation,

f. forming a circular flow of solid matter, through material return into the gas

stream, arranged in an axial direction of the reaction chamber,

g. adding at least one inert material as an addition into the enzyme granulate

matrix or parts therefrom for diluting the enzyme, wherein the at least one inert

material is added in at least one of: solutions, suspensions or melts, which is

separate from the resulting enzyme solution formulation, and

h. atomizing the at least one inert material via at least one inert material atomizing

three way nozzle or four way nozzle that is separate from at least one liquid enzyme

atomizing nozzle for atomizing the liquid enzyme formulation during the drying and

granulation process, with both types of nozzles being present in an injection zone

(22) in the core zone above the deflecting part (3); wherein the average value of the

residence time of the enzymes in the processing chamber amounts to less than 1.5

<u>hours</u>.

37. (Cancelled).

- 8 -